

June 1984

TAIG

TWIN CITIES ATARI INTEREST GROUP

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Note the meeting date, July 1st

Notes From the Editor

As I'm sure most of you have noticed there wasn't a May newsletter. It went in the mailbox on one end but never made it out on the other. We're not sure exactly where it is but let us say that the Ponies must have been tired.

This is basically the May newsletter except it doesn't have the survey results. These will be printed in a later newsletter. If I've forgotten anyone's articles that they've submitted please be patient I'm trying to get things caught up.

A plea for help! If you have a modem or an 850 interface and would like to help with the newsletter, please call me (Ralph 935-4397). I need someone to help gather the articles and then upload them to me. If you don't have a modem I'll lend you one (it's an easy way to get a modem to use.) along with software to use it.

For those of you with modems I'll be reviewing Kermit (after Kermit the frog) a public domain file transfer protocol in a future newsletter. This is an excellent transfer program for both Binary and text files. Supporting wildcard (Dl:*.BAS) transfers is only one of it's major features.

Don't forget about the election of officers. Be prepared to voice your opinion.

KOALAPAD PICTURES IN BASIC

By Mark Neuman

Mark Neuman here to help answer some of those T.A.I.G. Random Access Memos. The first question I will try to answer is "How do you load KoalaPad pictures through BASIC and in Antic mode E?" Well, the KoalaPad driver program stores the picture data in a data compacted format, and I have not heard of a program that will load this data from BASIC. But don't panic, it is possible to store the picture data in Micro-Painter format. Then, by using the program that I will list, this picture can be retrieved from BASIC. For the KoalaPad driver program to store the picture in Micro-Painter format, go to the picture screen (not the menu/icon screen) and push the INSERT key and a file will be written to disk named PICTURE. To load a picture in the Micro-Painter format, go to the picture screen and push the CLEAR key and a file named PICTURE will be loaded. You may note the colors are all messed up, however this should be easy to fix. Now you can use those Koala Pad pictures in your BASIC programs with ease.

To use this program enter the subroutine listed below and type GOSUB 32220 to initialize it. When you are ready to display a picture open CHAN #1 to the picture data file (read) and GOSUB 32309 to load the picture. After the picture is loaded you must not let any text go to the screen or the picture will be lost. The easiest way to do this is to do a GOTO to itself (example 10 GOTO 10). Now let us see some graphics adventures added to the club library.

```
32220 REM INITIALIZE ROUTINE
32230 RESTORE 32390: DIM LD$(117)
:FOR X=1 TO 117: READ N: LD$(X)=
CHR$(N): NEXT X
32305 RETURN
```

```
32309 REM PICTURE LOADER
32310 GRAPHICS 24:A=USR(ADR(LD$))
32320 IF A <> 1 THEN PR."ERROR"
:RETURN
32330 GET #1,C1:GET #1,C2
:GET #1,C3:GET #1,C4:CLOSE #1
:POKE 712,C1:POKE 708,C2
:POKE 709,C3:POKE 710,C4
32350 RETURN
32390 DATA 216,104,173,48,2,24
,105,3,133,203,173,49,2,105,0
,133,204,160,0,177,203,201,79
,208,21
32400 DATA 169,78,145,203,165
,203,24,105,2,133,203,165,204,105
,0,133,204,169,0,240,14,201,15,208
,6
32410 DATA 169,14,145,203,208,4
,201,65,240,17,165,203,24,105,1
,133,203,165,204,105,0,133,204
,169,0
32420 DATA 240,198,162,16,169,7
,157,66,3,169,0,157,72,3,169,30
,157,73,3,165,88,157,68,3,165
32430 DATA 89,157,69,3,32,86,228
,189,67,3,133,212,169,0,133,213,96
```

Reprinted from ARPA Mailing.

REVIEW OF ATARILAB By Major Howard W. Yellen

Last night at our monthly ATARI users group meeting (Southcentral Pennsylvania ATARI Computer Enthusiasts -- SPACE) we were introduced to ATARI's latest product -- AtariLab. Actually, it was a preview since formal announcement will not occur until this Thursday in New York. It was a most impressive demo and I shall try to pass on as much as I could glean during the 45 minute presentation.

AtariLab has been under development at Dickinson College in Carlisle, Pa. for about two years. The project director, Priscilla Laws, was inspired by Robert Tinker of the Technical Education Research Centers of Cambridge, Mass, who

earlier had shown various techniques for using a personal computer as a low cost laboratory instrument. The AtariLab Science Series is fundamentally different from most educational computer products currently marketed. Rather than providing programmed text, the Science Series has been designed to enable users to "learn science by doing science".

The first product of the AtariLab Science Series (being introduced on Thursday) is the AtariLab Starter Set with Temperature Module. Future modules will have special sensors and other scientific equipment that can be used to measure light intensity, degree of angle, heart rate, sound pressure and other aspects of the physical environment. ATARI will be targeting this product for the home in terms of its advertising efforts, but its utility as a tool in the classroom is undeniably apparent.

The Starter Set contains a manual, an AtariLab Interface, a temperature sensor, and a temperature Module Cartridge. The Interface is the key to the AtariLab. It allows the user to connect sensors, lights and other devices to the computer. The interface is plugged into controller Jack 2 and can be used with either ATARI 800 or the XL series (I'm not sure about the 400). The manual provides an Intro to the Science Series, the Interface and the temp. cartridge. Activities and experiments involving temperature and measurement are explained and suggestions for writing LOGO and BASIC programs to record, analyze and display data are contained as well. The 16K ROM cartridge contains the programs needed to make observations and perform experiments with the temperature sensor. The sensor measures

temperatures between -5 C and 45 C and plugs into the interface. The thermometer checks readings from the temperature sensor and is also used for the calibration process.

Some topics I noted while browsing through the manual include:

Locke's test
Evaporation
Dewpoint
Condensation
Temperature changes over time
Heat energy in ice
Chemical melting
Changing air temperatures

Some general comments: Cost of the Starter Set is \$89.95. It will allow a user to print graphs to a printer, but ONLY if it's an EPSON. This made the Epson owners very happy but outraged all the other printer owners. Temperature data can be stored on disk for future retrieval. Joystick or keyboard control can be used. Documentation is very good. If there is any drawback to it, it might be that it is too verbose. I mention this because the age parameters are 9 to adult. Not too many 9 year olds will read through it but then again the purpose of this product is to "learn science by doing science". The human interface (in particular graphics and sound) is terrific. The product is scheduled to be advertised in the Sears Christmas Wish Book and we can anticipate, if ATARI has their stuff together, that it will be available by late fall. I make this somewhat sarcastic comment because a product list from ATARI Learning Systems shows AtariLab as already available and the AtariLab Light Module as available in Feb. 84. The developers state that the light module will not be ready for a few more months.

Overall, I was very impressed. I believe that the Series can be a

valuable tool not only in the home but in the classroom as well. In fact, it is really grade independent and would be limited only by a teacher's imagination and creativity. It is certainly a step in the right direction for educational software.

PS. Cost of the light module will be \$49.95. The creators are considering a printer driver and are currently doing some preliminary work. When it will be available and for how much remains unanswered.

Forth Notes - #3 By Bob Floyd

Hello again. I hope most of you were able to decipher PADL from the last newsletter. For those who didn't, here is an explanation. First of all, < and > make comparisons and leave a true/false (1/0) flag at Top of Stack (TOS). Other comparison words are <=, >=, =, and <>. These compare (and discard) the top two items on the stack and leave a 1 if true or 0 if false. Look at the listing of PADL below to see how this is done.

```
: PADL ( pdl# -- vpos )  
PADDLE DUP 36 <  
IF DROP 36  
ELSE DUP 194 >  
IF DROP 194  
ENDIF  
ENDIF ;
```

Other comparison words are 0<, 0>, 0= and 0# (0 not equal). These make comparisons between 0 and one number at TOS. If you don't see a comparison word you like, just make up a new one such as

```
: 0>=  
0 >= ;
```

Of course this is an extremely

simple word, but in certain programs where a comparison like this is made frequently, it will come in handy. Now, for the IF/ELSE/ENDIF (I/E/E) structure. As you can probably guess by now, IF takes the number at TOS and executes the word(s) following IF if true. After these word(s) have been executed, control passes to the word(s) following ENDIF. Any non-zero value, not just a 1, is taken as an indication of being true. However if the value at TOS is false (i.e., 0), then control passes to the word(s) following ELSE. Afterwards, control passes to the word(s) after ENDIF. Note that the use of ELSE is optional. This can be seen in the second I/E/E structure in PADL. If ELSE is omitted and TOS is false, control passes directly to the word(s) after ENDIF.

I'm sure you can see that it is very important to keep I/E/E structures matched up. A program can get quite garbled by mismatched I/E/E's. In writing a word or program by hand, I always subscript each I/E/E structure like this:

```
IF 1 DROP 36  
ELSE 1 DUP 194 > etc.
```

When typing, I indent each successive I/E/E structure one more space than the last. See PADL for an example.

While on the subject of typing in a word or program, let me explain a few more things. For instance, the word PADL can be typed as shown (interactively) at any time. This also LOAD's (i.e., compiles) the word into the dictionary automatically. This is fine for hacking around. However, if a word depends on another word for its definition and that other word needs to be altered, your current word will still use the old definition. For example, if the

definition of PADDLE is changed after PADL has been compiled, PADL is not updated with the new definition and will have to be re-entered. This is why most FORTH programs are typed with a Text Editing program. A Text Editor is much like a word processor. The FORTH compiler is capable of loading programs created with the FORTH Text Editor. Thus, if a word is changed, all following words can be easily re-compiled. Before compiling, it is wise to first FORGET the previous definitions of the words to be re-compiled so that the dictionary doesn't get filled up with obsolete definitions. I'll cover more on text editors in a future article.

Next time, I'll cover memory operations @ and !, known as fetch and store. I'll also cover constants, variables and arrays.

```
#####
#####
###
### FYI
###
### To submit all those articles###
### that you have on the back- ###
### burner.
###
### 1) Drop a disk with your ###
### article to me at the ###
### meetings.
### 2) Mail me your disk.
### Ralph Jenson
### 8008 W. 28th
### St. Louis Park, MN 55426
### 3) Upload them to me.
### Call me at 935-4397
### and we can figure out a
### way.
#####
#####
```

THE BOOK LIBRARY by Lance Welch

This article is a list of the books, magazines and newsletters in the TAIG Book Library. First the book list.

De Re Atari -- Explains in clear terms unique features of the hardware, software and Basic cartridge.

Atari Assembler -- Explains the Assembler cartridge. It does not explain the 6502 instruction set.

Operating Systems Manual -- Explains operating system in detail.

Hardware Manual -- Explains the operation of the hardware in detail. This includes schematics.

OS Listing Assembler -- Listing of the operating system.

DOS Listing Assembler -- Listing of the Disk operating system.

APX Catalog -- Description of programs available from APX.

Starting Forth -- Excellent introduction to the Forth language. Inside Atari -- General explanation of your Atari computer.

COMPUTE! First Book of Atari -- Collection of COMPUTE! magazine's articles about Atari.

COMPUTE! Second Book of Atari -- Another collection of articles about Atari.

COMPUTE! First Book of Atari Graphics -- A collection of COMPUTE! magazine's articles about Atari graphics.

Inside Atari DOS -- Explanation of Atari's Disk Operating System.

Inside Atari Games & Recreation -- Collection of games programs.

Mapping Atari -- Describes the uses of Atari memory locations.

Atari Tech Notes -- A series of papers relating to various features of the Atari and two long papers on Pilot and LOGO.

Atari Basic Source Book -- Explanation and source listing of the Basic cartridge.

Analog Compendium -- Programs from

the first 10 issues of Analog magazine.

Best of Antic Anthology -- Programs from the first issues of Antic.

Book of Atari Software, 1983 -- Description of programs available for the Atari.

We have reference copies of some of the major Atari newsletters. However, we have not gotten any of the latest issues. If anyone is getting newsletters, I would appreciate knowing this. Here is the list of newsletters:

ACE -- Atari Computer Enthusiasts; Eugene, Oregon.

JACG -- Jersey Atari Computer Group; High Bridge, New Jersey.

Milatar! -- Milwaukee Area Atari Users; Waukesha, Wisconsin.

Atari Computer Association of Orange County; Westminster, California.

The San Diego Atari Computer Enthusiasts.

Current Notes -- Reston, Virginia.

The Books, magazines, and a non-reference copy of the MACE newsletters may be checked out at the monthly meeting. They are to be checked out for one week unless no one wants the book. Then please return it at the next meeting of the club. If a person wants a book, find out who has the book, contact him/her and make arrangements with him/her to get it.

If you have any questions or suggestions concerning the book library, please contact me, Lance Welch, at 427-2312.

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Graphics printer with built in printer interface & graphics software. Includes cable, 2 yr manufacturers warranty. \$230

PERCOM double density disk dr.
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612-861-1893

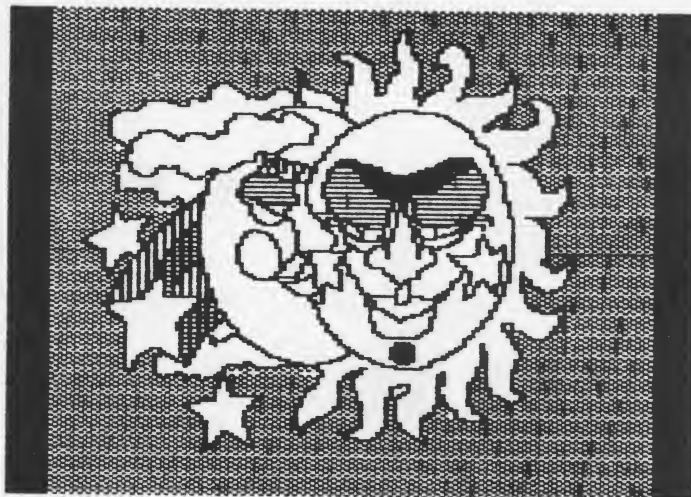
RUN THIS

Taken from: ABACUS:
Taken from: PAGE 6,
Stafford, U.K.

```

5 REM ** CYLINDERS **
6 REM ** by Phil Griffin **
10 GRAPHICS 9:SETCOLOR 4,1,0:Y=8
15 X=0:Y1=180
20 A=1:B=15:C=1:GOSUB 100
25 A=15:B=1:C=-1:GOSUB 100:A=10
30 FOR Y=18 TO 58 STEP 10
35 Y1=Y1-10:GOSUB 100:NEXT Y
40 FOR K=1 TO 3:FOR Z=0 TO 3
45 SETCOLOR 4,Z,0
50 FOR T=1 TO 1000:NEXT T
55 NEXT Z:NEXT K:GOTO 10
100 FOR K=A TO B STEP C
110 K1=K:IF K>12 THEN K1=12
120 COLOR 15-K:PLOT X,Y-2-K1/3
130 DRAWTO X,Y+K1/3:COLOR K
140 PLOT X,Y+1+K1/3
150 DRAWTO X,Y1+K1/3:X=X+1
160 NEXT K:RETURN
    
```

GRAPHICS



Screen Dump Graphics Courtesy of
Fritz Porter, S.D.A.C.E.

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BASIC XL, ACTION! or KoalaPads only \$65. Indus disk drives \$349. Joysticks: WICO BOSS \$12, ProSticks \$18. Teak Flip-files \$29.97.

Last chance for ATR-8000's at \$415.

SWP is raising the price \$100. if you've been holding out now's your last chance at \$415.

Modems \$285 Anchor Automation Mark XII. Hayes compatible (mostly) auto dial auto answer. These are remarkably priced 300/1200 baud modems. Direct connect to your phone line.

Disks are still \$1.49 ea in lots of 20. (\$29.80 + tax)

TWIN CITIES ATARI INTEREST GROUP
6824 QUEEN AVENUE SOUTH
RICHFIELD, MN 55423



Renew

Next TAIG Meeting:
Sunday July 1, 1984
Interest Groups - 6:00 p.m.
TAIG - 7:00 p.m.

ELECTION OF OFFICERS

St. Louis Park Rec. Center
5005 West 36th Street
St. Louis Park, MN 55426